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Essays on Asymmetric Federalism

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MPRA Paper No. 21591, posted 24 Mar 2010 09:07 UTC

Essays on Asymmetric Federalism

Inaugural-Dissertation zur Erlangung
des akademischen Grades eines
Doktors der Wirtschaftswissenschaften
der Universität Mannheim

vorgelegt von

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Frühjahrssemester 2009

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Tag der mündlichen Prüfung: 8. Oktober 2009

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Acknowledgements

First and foremost I would like to thank my supervisor, Lars P. Feld for his guidance during my work at the thesis, as well as for the inspiring introduction into the world of empirical economic research. His advice has been crucial for my work, and this thesis would certainly never be completed and even started without his support. I also thank Eckhard Janeba for his helpful comments and suggestions, as well as for his patience with numerous revisions of the theoretical part of this work. I am very grateful to the faculty and fellow students of the Center for Doctoral Studies in Economics in Mannheim, which is a certainly unique place with very stimulating and challenging environment for academic research. My stay at the Stockholm School of Economics, as well as permanent communication with the colleagues from the Chair of Public Economics at the Alfred-Weber-Institute in Heidelberg have been very helpful for facilitating the research.

Individual chapters of this thesis have circulated as papers and were presented at various occasions. Hence, I would like to thank the participants and discussants of several conferences and seminars, in particular Thiess Büttner, Malte Hübner, Stefan Voigt, Elena Shkrebel, Leonid Yakonson, Steffen Osterloh, Joan Costa i Font, Panu Poutvaara, Harry Seldadyo, Masayuki Kudamatsu, David Strömberg, Sergei Guriev, Chris Kingston, Martin Scheffel, Toshihiro Ihori and Celine Bignebat for helpful comments. All mistakes, of course, are my own. I am indebted to Mikhail Golovnin, Oleg Ryhtikov, Ekaterina Klyusheva and Daria Ushkalova, as well as Vladimir Popov and Vladimir Klimanov for the help with obtaining (and understanding!) Russian data. I am also grateful to Daniel Treisman for comments on the sources of data. Financial support from the Deutsche Forschungsgemeinschaft through the graduate school of the University of Mannheim is gratefully acknowledged. Moreover, I would like to thank Horst Zimmermann and Alfred Schüller for their support at the "starting point" of my work.

Last but certainly not least, I thank my parents and my grandparents, who have always been there for me.

Chapter 1

Introduction

1.1 Research problem

The growing research on fiscal and political federalism in economics (as well as rational choice political science) basically shares two main assumptions regarding federal institutions: it takes democratic and symmetric federations as the reference point. *Democracy* means that the decision making is based on elections and/or referenda, which effectively constraint the actions of politicians. *Symmetry* means that the "degree of devolution" for all regions is identical. In particular, if both federal and regional budgets are funded by a common split tax, the de-jure retention rate is identical for all states. It goes without saying that there is a multitude of models looking at *economic* asymmetry between regions: most federations include states or regions with significantly different economic potential, population and territory, obviously influencing both their comparative economic performance and their behavior in the federal bargaining.¹ However, the economic asymmetry does not (necessarily) provide an identity mapping into the asymmetric devolution in terms of formal institutions and informal policy making (what I refer to as "asymmetric federation" in this paper): this issue requires careful analysis. Although these assumptions are helpful to derive valuable insights in the development of federations, it is obvious that they do not cover the variety of institutional and political environments existing

¹For example, in Argentina four industrially dominant provinces and the federal district of Buenos Aires account for 78% of the nation's industrial production and 70% of the population. In Australia New South Wales includes 35% of the population, whereas Tasmania accounts for less than 3%. In Germany the largest Land North Rhine Westphalia accounts for 21% of the population of the federative republic, whereas the city-state of Bremen includes less than 1%. In India Uttar Pradesh includes 16% of the whole population, and Sikkim less than 0.1%. The largest U.S. state California accounts for 11% of the population, and the smallest state Wyoming includes less than 1% of the population. The largest Brazilian state Sao Paulo is more than 100 times as large in terms of population, as the smallest one (Roraima). Yukon includes less than 0.1% of the Canada's population and Ontario 38%. Even in Austria, which is significantly smaller, than other federations mentioned above, the largest Land of Vienna is about 30 times as large in terms of population, as the smallest one (Burgenland).

in federal systems.

First, it is safe to claim that the fiscal capacity of individual regions (i.e. the resources they keep to implement their economic policy) is heterogeneous in virtually all federations. However, this difference can simply be an outcome of the *free discretion* of regional governments over their own tax rates and bases (as in the U.S.), of the application of *identical rules* to regions with *different endowment* (for example, if there are several split taxes with different de-jure retention rates, and regions have different endowments in terms of tax bases, unavoidably the overall share of tax revenue kept by individual regions will be unequal) or of the *redistribution* of the common pool of resources at the federal level through transfers. However, another reason for the differences in fiscal capacity (which I focus on in this paper) is that the *rules* applied to individual regions are *different*. This form of asymmetric federalism (as it is usually referred to in political science) is typical for a wide variety of countries.

For example, the developing Spanish federalism is asymmetric per construction: the autonomous regions (*comunidad autonoma*) were not established by the constitution, but the latter institutionalized a procedure, which could be used for their creation, as well as for "accepting" responsibilities. Specifically, the retention rates for shared taxes are not identical over the communities; two of them enjoy special "foral regime" with higher fiscal independence. The same is true for the British devolution: the degree of autonomy of Wales and Scotland is set separately, as well as the (possible) autonomy of England (McGregor and Swales, 2003). Federal entities in Belgium and Canada enjoy partly different rights: Canada is a prominent example of unilateral concessions to a particular region of the federation in order to maintain the unity of the federal state (Quebec). India originally included four types of states depending on their historical origin (British rule, former principalities etc.) and currently still has specific regulations for ethnic minorities (Rao and Singh, 2004). At the moment let me put aside the question why this particular form of federalism appears at all: although the results of bargaining over varying retention rates may be identical to that of bargaining over transfers when retention rates are identical, there are countries where regions obviously prefer the former to the latter. In this paper the existence of asymmetries is assumed as given. More importantly, it seems to be the core of the "autonomy" arrangements in unitary states, when individual regions receive special status and higher autonomy in economic decision-making (in political science often referred to as "federacies").²

Second, although there have been important changes over the last decade,

²An incomplete list of this arrangements includes Alan Islands in Finland, five special regions (Sicily, Sardinia, South Tyrol, Friuli-Venezia Giulia, Valle d'Aosta) in Italy, Zanzibar in Tanzania, the Atlantic Coast in Nicaragua, Corsica in France, Minadanao in Philippines, Gagauszia in Moldova, West Papua in Indonesia, Bougainvillea in Papua New Guinea, Greenland and Faeroes in Denmark, Madeira and Azores in Portugal, Jersey and Man in the UK, Xianggang in China, Crimea in Ukraine or Karakaplpakistan in Uzbekistan.

the modern political economics (including economics of decentralization) is still to an important extent the economics of democracies. However, the political regime is yet another reasonable "candidate" for influencing the degree of decentralization. Although, as it will be discussed below, there is some research dealing with effects of the democratization on the process of devolution, there is still at least one neglected area: *internal* political differences between different levels of government in a federation. Regional differentiation of the level and the type of democracy is quite typical for federations in developing and transition countries. The first source of the variation is the (relative) weakness of the federal center, often unable to control the development of regional political institutions and therefore limit the diversity of regional political equilibria (McMann, 2006). The second source is the need to compromise with regional elites in the process of democratic transition, leading to "pockets" of democracy or autocracy. In several cases the very ability to carry out the democratic transition may be associated with an "implicit contract" with the regional elites, maintaining their autocratic rule. Finally, economic and ethnic differences among regions lead to a strong differentiation of the bargaining power of individual actors; in a world where these actors bargain not only within rules, but foremost about rules, it leads to the differentiation of political institutions.

This trend has been observed in different parts of the world. In Latin America Brazil, Argentina and Mexico included regions with different political systems (Gibson, 2004): for example, the transition from the dictatorship of the Institutional-Revolutionary Party (PRI) in Mexico started with the development of individual democratic regions; however, even after the democratization occurred on the federal level several regional leaders maintained their quasi-authoritarian power. In India regional governments were able not only to change the specifics of regional political systems, but also to establish significantly different economic systems.³ The traditional channels of control of regional governments through the constitutional court, the federal legislature or the national political culture are much weaker in these countries, than in the developed world. However, one should not necessarily be looking for developing countries and weak democracies to find examples of different political systems in one federal structure. Quite a few of the U.S. states in the early 20s century were controlled by powerful political machines eliminating any free competition at the elections; the dominance of the Democratic party in the U.S. South was based on various voting restrictions (like literacy tests), introduced to undermine the electoral basis of the opposition (see Besley et al., 2007, for a survey of anecdotal evidence). The 'subnational authoritarianism' has also been reported in Spain and Southern Italy.

On the contrary, autocratic states sometimes include regions with a higher level of democratization. The traditional monarchies of Central and Eastern Europe

³For example, in West Bengal, where the Communist Party maintained the power monopoly for decades (Chen and Sil, 2007).

in the 19s century partly included regions significantly more successful in terms of the democratic development. A good example is the special status of Finland in the Russian Empire. The territory maintained its own parliament (though no publicly elected legislature existed in Russia) and a legal system, which was quite developed even as opposed to other European countries of that period (for example, Finland was among the first territories in the world to provide women voting rights). Autocracies sometimes allow limited political competition on the local level (like China, which has recently introduced free elections on the village level, see Thurston, 1998), maintaining absolute control over political developments on the federal or central level. The reasons why a non-democratic center credibly commits (and maintains the commitment) to allow free elections on the regional or local level can differ and include some sorts of political experiments or outcomes of internal power struggles and external pressure. However, systems with more advanced democratization on provincial level sometimes result from a slow overall democratization process, like in Mexico; in this case, however, they are likely to be less stable (Diaz-Cayeros, 2003).

Finally, formal pure non-democratic federations seem to be a relatively rare phenomenon in the modern world (an example is probably the United Arab Emirates), since a non-democracy has difficulties in maintaining rule of law necessary to establish clear separation of powers between the federal and the regional level. However, in a broad sense, non-democratic political system with independent regional and central elites and a relative balance of power between them determining the distribution of the fiscal revenue are often present in large countries, if the political control of the center is not absolute. Latin America experienced a significant move towards decentralization under authoritarian leaders (Eaton, 2006), and so does China today.

The existence of asymmetric and / or non-democratic federations and the quality of policy making and governance in these structures is per se an interesting question for political economics. What is, however, even more important is that asymmetric federations often provide unique laboratories to test a multitude of general questions of public and political economics in an intranational setting. It is well known that the international samples of countries suffer from important problems: quality of data may often be incompatible, there is a selection bias and / or small-sample problem etc. Hence, using the intranational variation of the parameter of interest may become an interesting alternative, especially because country knowledge may make specific strategies of identification (unavailable in general settings) useful. This thesis attempts to apply the asymmetric federalism case in two main frameworks.

First, it looks at the problem of the **endogenous decentralization** - a field growing extensively over the last decade (Lockwood, 2006). Unlike the traditional implicitly or explicitly normative fiscal federalism, the endogenous decentralization approach does not deal with the optimal centralization and the power allocation between the center and the regions, but rather studies the (in-

ternal) processes within a federal system that lead to a specific allocation of decision powers or fiscal revenue. Basically, it comes down to a (supposedly) simple empirical question: why are some countries more (de)centralized than the others? Unlike the dominant literature on endogenous decentralization, using either international setting (Pryor, 1968; Oates, 1972; Kee, 1977; Pommerehne, 1977; Bahl and Nath, 1986; Wasylenko, 1987; Patsouratis, 1990; Vaubel, 1996, 2009; Panizza, 1999; Cerniglia, 2003; Garret and Rodden, 2003; Diaz-Cayeros, 2004; Stegarescu, 2006; Arzaghi and Henderson, 2006; Letelier, 2005; Treisman, 2006) or internal decentralization within regions (mostly in the U.S. and Switzerland, cf. Pryor, 1967; Litvack, Oates, 1970; Giertz, 1976, 1983; Mullen, 1980; Wallis and Oates, 1988; Baker, 2000; Feld et al., 2008), the first three papers of this thesis specifically use the setting of an asymmetric federation to study the determinants of decentralization. Second, the existence of the subnational variation of political regimes provides an interesting field for research on the **comparative performance of democracies and autocracies**. Although the "democracy-and-growth" studies include literally hundreds of papers and thousands of regressions (Doucouliagos and Ulubasoglu, 2008), virtually all of them, once again, restrict their attention to comparing performance of different countries (or of individual countries over time). Here, once again, looking at panels of regions might be an advantage, as it is discussed in this thesis.

1.2 Structure of the thesis

This thesis is comprised of four papers. The first three deal with the problem of endogenous decentralization in asymmetric federations, including those with variation of political regimes. To start with, the first paper (*Chapter 2*) considers the problem from a broad perspective. Using the data from the Russian Federation in 1995-1999, it looks at three measures of devolution: fiscal, regulatory and constitutional decentralization, and attempts to find out their interrelation and their driving factors. Basically, there are two main findings from the chapter. First, three aspects of decentralization (although evolving simultaneously and influenced by interacting (or even identical) agents) do not seem to be correlated. Second, the set of determinants of the decentralization, for which the zero effect could be rejected, is also different: while for the fiscal decentralization bargaining power and preferences seem to play the crucial role, regulatory decentralization is influenced by bargaining rules and path dependence factors. The sets of outliers for different dimensions of decentralization also differ.

This result challenges the traditional approach to empirical studies of decentralization, which take a variety of post-constitutional indicators as proxies for allocation of authorities. Hence, it becomes important to study the factors influencing the divergence of de-jure power and de-facto control over resources. Therefore in the next step (*Chapter 3*) the thesis looks at a specific mechanism of fiscal decentralization in an asymmetric federal structure. Once again, I use the

data for the Russian Federation (for 1995-1999 and 2000-2006) to test different hypotheses regarding the strategic tax collection behavior as a driving force of the fiscal decentralization. In a centralized federation where regional and federal budgets are financed by taxes (mostly) determined by the federal parliament, regions, if they are able to control their tax authorities, have incentives to manipulate the tax collection and tax auditing effort for various reasons. If there is a huge tax avoidance (and therefore the tax collection measures are limited and unable to cover all taxpayers), one of the outcomes of the strategic tax collection may be shifts of the retention rates; thus even centralized federations become subject to the de-facto devolution. The chapter indeed finds evidence of the strategic tax collection as factor of the fiscal decentralization in Russia.

Both *Chapters 2* and *3* included a measure of democracy in individual regions among covariates; however, it did not produce significant and robust results. Therefore *Chapter 4* looks at the problem from a theoretical perspective: it constructs a very simple model of an asymmetric federation, where regional and federal governments may have (potentially different) democratic and non-democratic political regimes, and looks at the properties of mapping from economic and political fundamentals (heterogeneity, size of regions, secession costs, political regimes) into retention rates in a setting allowing for secession. There are three main results to be reported. First, as expected (and as demonstrated in the previous chapters for the Russian case) regions with a large territory, low secession costs and a high "preference distance" from the federal government have larger retention rates. Second, the degree of decentralization in a pure democracy (where both regional and federal governments are democratic) is higher, than in a pure non-democracy only for specific conditions on preference distance / information flows. Finally, hybrid regimes (where federal and regional governments have different political systems) are more centralized, than pure non-democracies.

While *Chapters 2* and *3* had the problem of endogenous decentralization in an *asymmetric* federation in focus, and *Chapter 4* looked at *asymmetric* federation with *various level of democracy*, *Chapter 5* specifically concentrates on the sub-national variation of democracy in order to study the "democracy-and-growth" nexus. Looking at a sample of Russian regions in 2000-2004, it uses various techniques to regress the annual growth rates on the degree of democracy and the size of bureaucratic apparatus in individual regions. The main finding is that the democracy has a robust U-shape impact on economic growth: hybrid regimes perform significantly worse than both democracies and autocracies.⁴ The findings for bureaucracy are less robust: in cross-sections and panel data settings without region fixed effects, the bureaucracy increase seems to hamper economic growth; the result vanishes for estimations with region fixed effects. Finally, the chapter reports some results on the interaction of democracy and

⁴It should be noted that I use different definitions of a hybrid regime in chapters 4 (a country with different political regimes on different levels of government) and 5 (a region which combines features of democracies and non-democracies in the regional political system).

size of bureaucracy.

Individual specific results of the chapters are summarized in the respective conclusions; however, there at the end of the thesis I discuss some general results which could be obtained from both theoretical and empirical discussion.

1.3 Institutional details on the Russian federalism

1.3.1 Asymmetric federalism: Russian style

As shown above, there are three empirical papers and one theoretical contribution in this thesis. For all three empirical chapters the source of data is a sample of Russian regions for different periods; the theoretical model is also interesting in terms of explaining the Russian devolution (although naturally not limited to this particular case). Hence, it seems appropriate to provide some basic information on the functioning of the Russian fiscal and political federalism in the *Introduction*, since this information might be relevant for all further chapters of the thesis.

Russia of the 1990s is in fact a good example of an asymmetric federation and of high variation of political regimes within one country. The basic elements of asymmetry were already inherited from the Soviet period: the post-Soviet Russia includes 89 regions (their number changed over time, see also *Figure 1.1*) with partly different status. While 21 territories are called "ethnic republics" and exhibit a variety of elements of statehood, other regions (oblast or krai) have evolved from traditional administrative territorial units⁵ or (autonomous okrug) are even subordinate to other regions. The Soviet fiscal system (which still exists in several former Soviet republics like Uzbekistan) was de-jure asymmetric *par excellence*: each year the central government set individual retention rates for individual regions and individual taxes (with tax rates and bases set on the federal level). In the early 1990s this formal structure was filled with the real bargaining; the retention rates for individual taxes / regions changes on quarterly or half-year basis. The negotiations were basically implemented by the federal government and a coalition of ethnic republics with more credible threat of (at least, partial) secession than that of administrative units. The Federal Treaty of 1992, which acted as the predecessor of the current constitution, granted special privileges to one particular type of subnational jurisdictions - the national republics (Ross, 2000:406).

In 1993-1994, this initial pure bargaining structure experienced two major changes. The first was an increasing level of the *formal centralization*. When the president managed to consolidate power on the federal level after the dissolution of

⁵Yevreiskaia autonomous oblast has a similar status, although formally belongs to national units of the Federation.

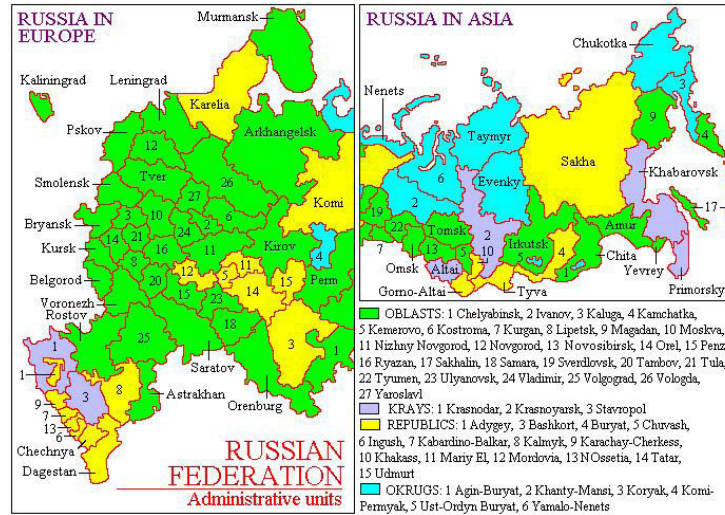


Figure 1.1: Map of Russia

the old parliament (Supreme Council) in autumn 1993, the situation changed; the new constitution of 1993 accompanied by the introduction of several basic acts on inter-budgetary relations in 1994 established the *de jure* assignment of responsibilities and of tax revenues between different levels of government. On the one hand, the constitution proclaimed an identical status of all “subjects of the Federation” (the official designation of all regions regardless of their status). However, previous norms, as well as the informal bargaining processes granted the national republics special privileges. On the other hand, the new Russian federalism was based on a high degree of centralization of tax authorities. The *exclusive list of taxes* was set by the federal parliament, originally in the Act on the Fundamentals of the Tax System, and after 1999 in the Tax Code. There was one notable exception from this regulation: the Presidential Decree No. 2268 signed on December 22, 1993, allowed the regional and local authorities to introduce their own taxes. However, though several regions used these possibilities, most taxes introduced by the regions did not even cover their administrative expenses (although they still influenced the economic processes as they were used to manipulate the competition between businesses to support privileged business groups, see East-West Institute, 2001). In 1996 the Decree was abolished, and although some regions continued using their “own” taxes, their influence on tax revenue was fairly low. The federal government also set the rules for calculating the *tax base* for all taxes. Consequently, there is only *one unified tax collection system in Russia*; all taxes are administered by the federal government.⁶ In a similar way, Russia became a highly centralized federation in terms of the regulation of economic and social activities: major standards

⁶Some details on Russian tax system are described in *Appendix A*.

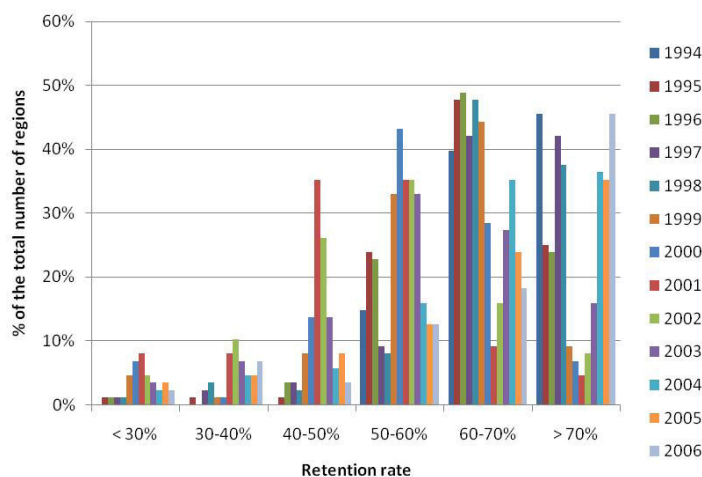


Figure 1.2: Distribution of regions according to the retention rates.
Source: Goskomstat, Ministry of Finance, Federal Tax Service, Federal Treasury, Freinkman, Treisman and Titov, 1999

in most areas were set on the federal level, while the regional governments had only limited ability to modify them.

Under the fiscal constitution described above *de jure* the only source of fiscal asymmetries in the tax revenue could be the differences in the tax base endowments (any changes of federal legislation, like new tax rates or new taxes simultaneously hit all regions). Indeed, this *de jure* highly centralized federal structure was implemented in an extremely heterogeneous country. Different regions of Russia are characterized by different resource endowments and industrial capacities, different population specifics and different access to transportation infrastructure and markets. The asymmetries in tax revenue distribution have been enormous. In the period between 1994 and 2006 the share of taxes received by the center from different regions varied from practically zero (Sakha in 1994 and 1995) to more than 95% (Kalmykia in 2005 and Voronezh in 2005). *Figure 1.2* presents the distribution of Russian regions according to their share in the tax revenue from their territory. The question is, however, whether the tax base composition is the only factor driving the heterogeneity.

Therefore in order to explain the fiscal asymmetries in Russia the second change of the Russian federalism should be considered: *the increasing bilateral and unilateral activity of regions* circumventing the formally highly centralized federal law. Partly this activity took place within the framework of direct bilateral bargaining between federal and regional governments, leading to the establishment of formal power-sharing treaties which are often referred to as elements of an

asymmetric federation (Stoner-Weiss, 1998; Filippov, Ordeshook and Shvetsova, 2004, Chapter 4). The process was to a certain extent induced by the Federal Treaty: as two republics refused to sign the Treaty (Tatarstan and Chechnia), and two of them (Bashkortostan and Sakha) insisted on special clauses with larger economic rights, the way was open for the establishment of a bilateral treaties system beyond the constitutional level. In 1994 Tatarstan and the federal center signed a special agreement with a broader scope of authorities of the regional government, which included both re-allocation of tax income from several taxes from the federal to the regional budget and the right to set breakdown of distribution of other taxed on a bargaining basis.

By the end of 1996 about 26 power sharing agreements with different regions were in power, and to June 1998 their number reached 46 (i.e. more than a half of the Russian regions). In addition more than 500 subordinate treaties between different governmental bodies were put into action (cf. Obydenkova, 2008). What is, however, very important is that at this stage the bargaining between the federal government and the coalition of republics was replaced by bilateral bargaining between the federation and the individual territories (Filippov et al., 2004). The spread of power sharing agreements seems to suggest the existence of domino effect; however, in reality the degree of autonomy incorporated in individual acts varied significantly (Martinez-Vazquez, 2002); a large majority of regions did not really aspire higher autonomy, preferring to benefit from the bandwagon effects (Gel'man, 2006). On the other hand, federal law (parliamentary acts and presidential decrees) was used to give additional authorities to regions.⁷

More important is the *unilateral* activity of regions leading to devolution. Its most prominent form was “the war of laws” (introduction of regional legislation running contrary to the federal one). While it does not automatically translate in fiscal asymmetries, it certainly influenced the structure of Russian regulatory federalism: as a result, Russian regions obtained significantly different degree of autonomy, resulting into substantial differences of regional legal regimes and economic policies (Polishchuk, 2001). Moreover, the unilateral devolution in fiscal area included decisions to prevent the local tax authorities from transferring the tax revenue to the federal government – a kind of “tax separatism”.

The negotiated bilateral treaties, wars of laws and unilateral concessions certainly had an impact on the developing asymmetric federalism. However, it would be by far too simplistic to reduce the observed *fiscal* asymmetries exclusively to this feature. Although the significant differences between the federal and the local regulation existed until the early 2000s (Chang, 2005), the possibilities for the regions to manipulate the transfer of tax revenue to the federal

⁷The earliest decrees were set in 1992 and covered regions like Tyumen, Karelia (granted the right to use 90% of federal taxes collected on its territory in 1992-1994 for funding of its development fund) or Ingushetia (since 1994 businesses registered in this republic did not pay federal taxes).

government went down relatively quickly. While in 1993 about 30 regions declared plans to “withhold” the federal share in the tax revenue, not a single one really implemented them. In 1996 St. Petersburg was the only region withholding 20% of the land tax revenue. There were only few attempts of open “budgetary separatism” in the 1990s. After the crisis of 1998 several regions announced the decision to block the federal portion of the tax revenue, and the parliament of Kalmykia (one of the national republics in the Southern part of Russia) decided to stop payments to the federal budget, but quick and severe actions of the federal center (e.g. the Ministry of Finance stopped funding any federal programs on the Kalmykian territory) resulted in the abolition of this regulation. Moreover, the major advantages obtained by the regions in bilateral treaties were of non-fiscal nature – control over oil and gas exploration in Tatarstan and Bashkortostan (Tatneft, the Tatarstan’s oil company, became one of the largest in Russia) or for the diamond industry in Sakha (the ALROSA holding). The first two treaties with Tatarstan and Bashkortostan allowed these republics to receive all royalties from the natural resources instead of the federal center. However, Sakha, the third region, was only able to enforce the special privileged regime to use part of the federal taxes collected on its territory for the funding of federal programs, i.e. a limitation was put rather on the expenditure than the revenue side of the budget. The later treaties either did not include any fiscal arrangements or were mostly based on the Sakha scheme. Some of them (e.g. Sverdlovsk) set a clear right of the regions to stop transferring taxes, if the federation does not follow its expenditures obligations. Hence, the search for further fiscal mechanisms of asymmetric devolution becomes important.

The political asymmetry in Russia went down in the 2000s under the new administration of Vladimir Putin. One of the first acts of the new president was to regain control over the federal political structures in regions (what was called “strengthening the vertical of power”): in 2000 seven new federal districts were established in which presidential representatives (mostly with a background in the military or security service) obtained the right to oversee the selection and placement of personnel in the local branches of federal authorities (Ross, 2003). Furthermore, the regional governors lost a significant part of their influence because of institutional changes (like the reform of the upper chamber of the Russian parliament, the Federal Council, or the right of the president to remove a governor from his office; see Hyde, 2001) accompanied by a strong public support for the new president. Meanwhile the degree of asymmetry between regions in tax distribution remained significant: Magadan was able to get about 98% of the whole tax revenue in 2003 and may be compared with the most “secessionist” republics of the early 1990s. Indeed, the standard deviation of retention rates increased significantly in the last six years (*Figure 1.3*). Therefore even the Putin period seems to be interesting from the point of view of this paper.

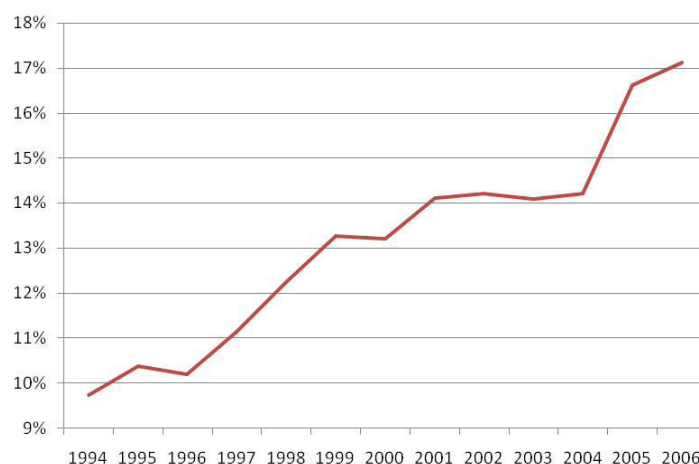


Figure 1.3: Standard deviation of the region's share in the tax revenue from its territory.

Source: Goskomstat, Ministry of Finance, Federal Tax Service, Federal Treasury, Freinkman, Treisman and Titov, 1999

1.3.2 Variation of political regimes in Russian regions

As discussed above, the variation of retention rates (and, as I will show in what follows, other decentralization indicators) makes the Russian asymmetric federalism a reasonable laboratory for studying endogenous decentralization and its mechanisms. However, Russia is also a clear case of variation of subnational political regimes. One could probably claim that the first differences in the structure of political systems in Russian regions occurred even before the transition started: in the Soviet Union several national republics were able to establish a de-facto higher autonomy in exchange for loyalty to the central government, which, however, did not intervene in the local political process. The collapse of the Soviet Union initiated a complex set of bargaining processes between the federal government and the regions and of internal conflicts within regions. And, as already mentioned, the first set of bargaining processes established the structure of asymmetric federalism, where regions achieved different degree of political autonomy, and a relatively weak federal center. Therefore - the second set of bargaining processes - individual regions received the opportunity to design their own political system independently as an outcome of internal power struggles. From mid-1990s all regional governors were elected by a popular vote (although several regions practiced direct elections even earlier, in spite of direct restrictions of the federal center). It increased the autonomy of regional political systems, but did not guarantee their democratic nature: regional elections could be easily manipulated by the authorities. Both formal and informal rules of elections also became subject to the bargaining process. Factors like

ethnic and economic legacies of the Soviet period, specifics of regional leadership and particular effects of economic transition for individual regions seem to have a profound impact on the paths of formation of political systems (Hale, 2003). Further factors like political culture, initial economic development and proximity to the EU could also have influenced the diversity of political systems in Russia (Obydenkova, 2007). The resulting differences often resembled those between independent states rather than regions of one country (Gel'man, 2008)

Gel'man (1999) provides a comprehensive review of the factors and driving forces of the development of regional political regimes. He basically confronts four scenarios of transition. In several regions a dominant actor was able to establish a near-monopoly and therefore create a quasi-authoritarian system similar to those of Central Asian countries or Belarus.⁸ Other regions provide examples of an elite settlement based on a compromise of main conflicting groups over the crucial aspects of policy (Nizhniy Novgorod), while the competition between clans remained an important factor of regional politics (Sharafutdinova, 2007). Yet another outcome suggests that conflicting regional elites develop institutions to avoid the "winners takes all" outcomes (Udmurtia). The range of different political systems in Russia varied from the pluralist democracies (St. Petersburg) to autocracies and even "warlordism" (Primorski krai, see Kirkow, 1995). Regional elites maintained different degree of control over the media and over regional economies (which could also be used as an additional power source if present or weaken the incumbents if absent).⁹

To conclude, the formation of political systems in the Russian regions throughout the 1990s has been an outcome of the competition and conflict between several centers of influence: governor, regional legislature, heads of largest municipalities (e.g. capital of the region) and federal bureaucrats. Towards 1999-2000 these conflicts diminished significantly, and a political equilibrium was achieved (Turovskiy, 2003). It does not imply, that the incumbents could always win the elections (although there seems to be a trend to lower turnover of

⁸The most well-known examples of these groups are regions where the old Soviet elites maintained their dominance behind the new ideological facade. For example, in Tatarstan the leadership of the local Communist party was successful in shifting its power first to the Supreme Soviet (regional parliament), and then to the office of the regional president Mintimer Shaimiev, which then created a successful political machine dominating both regional and federal elections. In Bashkortostan the collapse of the Communist party power caused competition between the Supreme Soviet and the regional government, ending up in the formation of a stable autocracy following that of Tatarstan. In other regions, like Mordovia or Mariy El, regional elites failed to consolidate their power in spite of attempts to catch up with Tatarstan (Matsuzato, 2004). On the other hand, in Kalmykia the newcomer Kirsan Ilyumzhinov successfully challenged the existing regional elites, only to establish his own version of regional authoritarianism with strict control over political processes and economic assets in the region.

⁹The variety of political systems reflected itself in the variety of formal institutions (although Russian politics diversity is much higher than that of formal structures): from presidential republics to parliamentary systems (Udmurtia, Khakassia) and more complex organizations with a governing council comprised of representatives of different ethnic groups (Dagestan) (Kozlov and Popov, 1999:185-194).

governors starting with 1999, see Nureev and Shulgin, 2006; Titkov, 2007), but rather means, that the structure of veto players and of the formal and informal rules governing the way (and the possibility) of power transition was set. The main factors influencing the political development of Russian regions in the 2000s became the activity of the federal center, trying to limit the degree of regional autonomy. Several measures of the federal sector (e.g. the introduction of the new federal act regulating regional elections in 2002, see Konitzer and Wegren, 2006) could indeed influence the political systems in different regions (though the ability of the federal center really determine the electoral outcomes remained relatively weak, see Chebankova, 2005). In fact, throughout this period the federal government focused rather on establishing control over the regional elites than on intervening in their internal politics.¹⁰ However, these shocks either uniformly impacted all regions, or, more important, did not depend on economic performance of the regions.¹¹ Hence, regions still remained politically diverse, and their political systems were mostly inherited from the struggles of the 1990s (for details see Gel'man, 2008). Once again, there seems to be enough space for studying the theoretical problems discussed above in this empirical setting.

¹⁰Although some notable exceptions, like St. Petersburg, should also be mentioned.

¹¹The Moscow Carnegie Center reported an index of democratization for individual Russian regions for the periods of 1991-2001 and 2000-2004 (which will be discussed in greater detail in the chapter 5). A simple correlation between the change of the democracy index of Carnegie Center from the 1990s to 2000s (difference between the new and the old index) and the gross regional product (GRP) per capita in 2000 yields insignificant correlation index of 0.256; the correlation between average growth rates and the change of democracy index is even smaller (-.0622). Moreover, the correlation between the old and the new index is 89 percent, suggesting a high persistence in the political organization of the regions. Nikolai Petrov (2005), who was responsible for the project of the democratization index for Russian regions implemented by Carnegie Center, notes that although there have been several changes between 1991-2001 and 2000-2004, they are mostly of "symbolic" nature.

Chapter 2

Constitutions, Regulations, and Taxes: Contradictions of Different Aspects of Decentralization

2.1 Introduction

One of the main problems for the empirical literature on decentralization, its driving forces and economic impacts, is that the decentralization is really difficult to measure. The traditional indicators like retention rates or subnational share of public expenditures have all been discussed and thoroughly criticized. There are at least two aspects able to cause trouble while bringing the theory on fiscal federalism to the data. First, it is crucial to distinguish among the constitutional and the post-constitutional stages of decentralization. Allocation of authorities as specified in the fundamental acts of the federation does not necessarily map into the allocation of de-facto authorities and, even more, of fiscal flows. Second, at the post-constitutional level there is always a gap between the fiscal and the regulatory decentralization; since both aspects are crucially important for the performance of federations, any empirical approach ignoring one of them is likely to face problems while identifying the *ceteris paribus* effect of the devolution.¹ The aim of this chapter is to explicitly confront different concepts of decentralization using a single dataset. The objective is rather positive than normative: first, I try to establish a correlation between different aspects of decentralization, and second, look at the driving forces determining

¹In this chapter (as well as throughout the thesis) I use the terms “devolution” and “decentralization” as synonyms, what is probably slightly sloppy if one looks at precise definitions applied in political science, but is reasonable for a study of an asymmetrically decentralized country.

the decentralization outcomes. From this point of view the chapter is also an exercise in empirical endogenous decentralization studies.

It is difficult to find a reasonable empirical playground for comparing dimensions of the decentralization, mostly because the decentralization beyond simple allocation of revenues and expenditures is very hard to measure. As already mentioned, this chapter takes advantage of the process of asymmetric devolution in the Russian Federation in the 1990s, and uses Russia as the laboratory for comparing different aspects of decentralization. Given the combination of high formal centralization in Russia with significant de-facto asymmetry, I use three proxies to measure the degree of devolution achieved by individual regions. First, a more traditional indicator of tax retention rates is applied to measure the degree of the *fiscal decentralization*. Second, I use the data of the Federal Register to obtain the share and the number of regional acts directly contradicting federal law, thus accounting for the *regulatory decentralization* on the post-constitutional level. Finally, I construct an index to obtain the degree of autonomy incorporated in regional constitutions (using their version as of in late 1990s), therefore measuring the *constitutional decentralization*.

The main finding of the chapter is that the fiscal decentralization, post-constitutional regulatory decentralization and decentralization incorporated in constitutions seem to be virtually unrelated to each other; moreover, different factors identified in the theory are at work for different aspects of decentralization. It is necessary to point out that it does not follow unambiguously from the theoretical reasoning that different dimensions of devolution should be correlated. On the one hand, different preferences and rents in different policy areas are likely to result in different levels of decentralization. On the other hand, correlation is likely to occur as a consequence of bargaining, where different aspects of decentralization become subject to package deals and therefore the outcomes turn out to be interdependent. The results of this paper, nevertheless, are relevant, first, because our knowledge of interrelation of dimensions of decentralization is extremely limited (and hence it is difficult to confront any theoretical result with reality), and second, because of somewhat simplistic treatment of decentralization in many empirical papers using just one "true" measure of decentralization. The latter could be justified if the dimensions of decentralization are correlated - so, an empirical investigation seems to be of interest.

The chapter is organized as follows. In the next section I discuss the problem of measuring the degree of decentralization in the literature. The third section presents different dimensions of decentralization and looks at their correlation. The fourth section focuses on determinants of endogenous decentralization in Russia and the econometric problems of the analysis. The fifth section reports the main results with respect to the driving forces of decentralization, and the last section concludes.

2.2 Measuring the degree of decentralization

Since decentralization seems to be one of the main concepts for economic and political reforms in both developing and developed countries, there exists a multitude of intersecting and diverging theoretical and empirical concepts for measuring decentralization, often applied as “proxies” for one another (Sharma, 2006). To start with, the main problem of the literature is actually not the choice between the “centralized” and the “decentralized” government, but rather between the *political*, or *constitutional* (which in turn may refer to the autonomy of decision-making, autonomous appointment of governments and their ability to participate in federal decision-making), and the *administrative* (which mostly refers to the construction of public administration, i.e. deconcentration of bureaucracy) decentralization (Hutchcroft, 2001; Ali, 2002; Schneider, 2003). For a large country (in terms of population or territory) the administrative decentralization is unavoidable and undisputable simply because of technical reasons of governability. Hence, the question for the optimal degree of decentralization usually refers to the decision-making autonomy of regional governments (although a world with agency problems and power asymmetries administrative decentralization may “turn into” the political autonomy of regional governments through the informal migration of authority).

A further distinction should be made, as already noticed, between the (already defined) *constitutional* decentralization and the *post-constitutional* decentralization. The post-constitutional decentralization reflects the *outcomes* of the political process, once the constitutional rules are set, rather than the rules themselves. The distinction is particularly simple in the fiscal matters: the constitutional decentralization implies the right of regions to independently decide on revenues and expenditures of their budgets; the post-constitutional decentralization, however, means just the allocation of funds between center and regions. In countries like Germany regions receive a substantial portion of the tax revenue, but have virtually no right to decide on the bases and the rates for taxes (which are then federal or joint responsibility). In what follows *fiscal decentralization* refers exclusively to these post-constitutional outcomes (as it is the case in almost all empirical studies, though not all of them acknowledge it). The situation is slightly more complicated, if one looks at the regulations. The constitutional decentralization, once again, means the allocation of decision-making rights on standards and norms for the economic activity. However, this allocation may be different from the “real” significance of regional and federal regulations for economic agents. For example, it is possible that one of the parties (either center or states) is more active in filling their “regulatory niche” with acts and norms, than the other. Once again, *regulatory decentralization* in this paper refers to the post-constitutional “relative importance” of the federal and the regional law for economic agents. Obviously, it is a vague concept, which I will, however, operationalize in what follows.

This chapter therefore looks at three concepts of decentralization: constitu-

tional and two post-constitutional (regulatory and fiscal²) dimensions of devolution. The literature often attempts to combine the constitutional and the post-constitutional analysis constructing a measure incorporating both (more simply accessible) outcomes of regulation and (more problematic) allocation of authorities; it may, however, be reasonable, if possible, to look at these issues separately. The constitutional level is usually more stable, than the post-constitutional outcomes, although in the developing countries it may also become quite volatile and even determined by individual personnel decisions (and then the same post-constitutional allocation survives a sequence of changing constitutional rules). The list of the post-constitutional dimensions may be expanded to include further aspects of governance (say, the allocation of personnel between levels of political system, cf. Treisman, 2002); however, even measuring three main dimensions of devolution is a non-trivial task.

The literature on *fiscal decentralization* usually relies on indicators like share of subnational (tax) revenues and / or expenditures, which are, in spite of common usage, also very often criticized both because of measurement problems (impact of tax and non-tax revenues, spatial allocation of federal expenditures, influence of interbudgetary transfers) and especially because they ignore the degree of autonomy (i.e. constitutional decentralization) in the decision-making with respect to fiscal matters (Ebel and Yilmaz, 2002). Hence, there have been a number of attempts to correct the data incorporating the degree of fiscal autonomy in the analysis (Stegarescu, 2005). The *regulatory* decentralization is obviously much harder to measure, since the variety of policy aspects to be considered may be huge. On the other hand, it is also more difficult to come to data for the international analysis, and the intranational variation may be insufficient. Hence, scholars usually focus on specific aspects of regulation providing a suitable basis for the analysis. For example, Strumpf and Oberholzer-Gee (2002) test the impact of preference heterogeneity on decentralization by studying the liquor control rules in the U.S. municipalities. Traub and Sigman (2007) examine the “voluntary decentralization” in the area of several health and safety laws in the United States.

The *constitutional* decentralization has been subject to a great variety of studies. The most popular approach is to construct an index, incorporating several aspects of decentralization as well as may be several outcome measures. Marks et al. (2008) provide a comprehensive review of these indices (as well as construct their own one). An alternative could be to measure the actual policy interconnection between different levels of government. Sheng (2007) studies the biographies of party secretaries in China to understand the logic of political decentralization, and Landry (2004) looks at the tenure duration and promotion patterns of local officials as response to formal decentralization. Finally, special political situations may provide source for analysis of constitutional decentral-

²The concepts may be similar to fiscal and regulatory interjurisdictional competition (Oates, 2002).

ization. For example, Hennessey (2008) discusses a specific experiment of home rule establishment for American municipalities.

In spite of the obvious importance of the topic, the literature explicitly comparing different dimensions of decentralization is very small (Treisman, 2002; Schneider, 2003; Blume and Voigt, 2008) and focuses only on international comparisons. A related analysis is done by Liu (2007), who performs a cluster analysis of different dimensions of decentralization in order to identify the typical combinations empirically observed, and Falleti (2004) in a case study of Latin American countries, who investigates the dynamic interaction of different aspects of decentralization. Finally, Treisman (2002) and Blume and Voigt (2008) look at the correlation of different forms of decentralization and socioeconomic and political country characteristics, including country size, ethnic division, colonial origin, economic development and level of democracy. However, data compatibility across nations adds an additional dimension to the measurement problem. Hence it is reasonable to look at different dimensions of decentralization and their origin using the *intra-national* variation of decentralization, which, however, to my knowledge have never been considered empirically before.

Once the subnational variation is taken into account, a further distinction should be made. First, one can focus on the decentralization *within* subnational units, if they are different enough. For example, Feld et al. (2008) perform an analysis of fiscal decentralization *within* the cantons of Switzerland, using the extreme heterogeneity of their financial constitutions. Second, however, one can benefit from existence of asymmetric federations and look at the variation of degree of devolution achieved by *each region* versus the central government. This chapter, as discussed, follows the second path.

2.3 Dimensions of decentralization in Russia

2.3.1 Measuring decentralization in Russia

As already mentioned, this paper looks at three dimensions of decentralization in Russia. The *fiscal decentralization* is measured by the traditional variable of tax retention rate (share of regional government in the overall tax revenue collected from its territory). Although the data is published by the Federal Statistical Authority (Goskomstat) on the annual basis, in order to ensure compatibility with other data, which are available only in a cross-section, I take the average over 1995-1999 (with 1995 being the first year after the reform of the federalism in 1994, establishing the existing system of interbudgetary relations in Russia, and 1999 being the last year of the Yeltsin's presidency before the re-centralization attempts under Putin started). The panel data opportunities for this dimension of decentralization are explored in the next chapter.

A unique advantage of the Russian dataset is that one can use a specific mea-

sure for the *regulatory decentralization* encompassing multiple dimensions of economic regulation. As already mentioned, the regional legislation in the late Yeltsin period included a large number of significant contradictions to the federal law. Although the federal law existed, regional courts and regional police, captured by the local governments, usually enforced the local law – so, the federal acts simply did not matter for economic agents. After the start of the Putin’s presidency, one of the first steps of the new government was to revise the regional law in order to ensure the predominance of the federal legislation. As part of this effort, the Ministry of Justice established the so-called Federal Register (*federal’nyi registr*), or catalogue of regional acts (both of the legislatures and of executive bodies, but incorporating legal norms) in power at that moment. The acts included in the Register should pass an examination by the expert commission established by the Ministry of Justice, which determines their compatibility with the federal law. As a result, a statement is published, which is then included in the file in the Federal Register as well. The acts contradicting federal law should be abolished or changed; however the file in the Register remains, even if the act is not valid any more. Although originally the Register was unable to cover all regional acts (a revision process certainly takes time), after several years one can be sure that most acts passed by the regions were included in the Register.

I use the Register statistics as published by the Ministry of Justice on December 31, 2006 and calculate two indicators. First, I take *the share of acts, which were assessed as contradicting the federal law, in the total number of acts for which an expert opinion is present* (which is, as one should mention, smaller, than the overall number of acts included in the Register), as indicator of the degree of regulatory devolution achieved by a particular region. In order to understand this variable, one should recall, that *de-jure* the Russian Federation has been an extremely centralized political entity in terms of regulatory authorities, mostly vested in the central government. However, due to its weakness regions basically received the option to “re-design” the federal law simply by making their own acts. Hence, if the share of these acts is high, the regions have “re-designed” the federal legislation to a greater extent and the central regulations matters less for economic agents. In theory, higher decentralization implies that the regional government makes *different* law than the federal one (of course, in certain settings both governments produce identical policies – but then the debate on decentralization is economically meaningless). If the share of contradicting acts is high, it means that the regional policies are really different (and, in particular, “more different” than for the regions with low share) from the federal standards, and hence, regions achieved substantial degree of devolution.

This measure may, however, face two problems. First, it may be too small because of the acts passed after 2001 in the Putin’s period (when the war of laws was reduced significantly) and included in the Register. A solution were to take an earlier date for the Register; but in this case one runs into a problem of

potentially neglected “old” acts, which may be still under revision. Second, it is possible that the acts are more likely to be passed in general if the region is willing to violate the federal law: if it does not desire it, it just remains silent over a certain area of regulation, which is then covered by the federal acts. Hence, I also use the *total number of acts* contradicting the federal law as a proxy for the regulatory decentralization. As shown below, both values are significantly correlated, but it is still necessary to look at both to establish the robustness of the results.

The devolution at the constitutional level in Russia is, as usually, a relatively tricky part for an empirical study. There is a certain literature addressing this problem by examining the reasons for establishment and for the duration of power-sharing agreements (Dusseault et al., 2005; Söderlund, 2006; Obyedkova, 2008). Obviously, the existence of a power-sharing agreement may be treated as an indicator for higher constitutional devolution. However, there is no research looking at the content of the treaties.³ This chapter does apply a different measure of constitutional decentralization, looking directly at the content of the *regional constitutions*. In the Soviet times, all union and autonomous republics already obtained a constitution, mostly built according to the same scheme. After the collapse of the USSR, most republics adopted new constitutions. Moreover, other regions (without the status of republics) also passed their articles (*ustav*). The constitutions were quite similar in terms of guarantees and rights declared to their citizens (and hence, there is no variation in their socio-economic content, unlike in case of, say, OECD constitutions, see Ben-Bassat and Dahan, 2008), with may be the only exception of the agricultural land private property. However, they varied quite substantially in terms of the design of political system and also the distribution of power between the federal government and the region. It is particularly true for the constitutions of 20 republics,⁴ since articles of other regions were more homogenous (although also partly incompatible with the federal law). I use six main dimensions of divergence in term of center-region relations for the republican constitutions (as they were valid in 1999) in order to construct the index. The dimensions include (see also Bartsiz, 2001):

- property on the the natural resources (regions, in spite of the federal regulation, declare natural resources – mostly mineral – their possession or take over the right to regulate the resources access regime);
- international agreements (regions, in spite of the federal regulation, declare their right to sign the international agreements with other countries independently from the Russian Federation);

³Although, as discussed in the Introduction, the content of the treaties was not identical (Martinez-Vazquez, 2002), the degree of autonomy can be reasonably approximated by the duration of the agreement. As already mentioned, in the earlier treaties the powers of regions were mostly larger, as specified in later treaties, when the very procedure and structure of a treaty was standardized (Boltenkova, 1998; Kurnyshov, 1998; Solnick, 2002).

⁴There are 21 republics in the Russian Federation, but Chechnya is excluded from analysis given the lack of somehow reliable data.

- state of emergency (the region takes over the right to declare the state of emergency, or restricts the right of the federation to declare the state of emergency on its territory);
- restrictions on regional branches of federal government (this feature applies basically to one region, Dagestan, which restricts the right of federal agencies to establish their local branches on its territory by requiring a special agreement);
- restrictions on validity of federal acts (the region requires federal acts to be ratified by the regional legislature; declares its right to (temporary) put federal law out of action; declares the priority of regional law at least in the area of shared responsibility of the federation and the region and / or reserves the right to take over the federal responsibilities if the federation does not implement them) and
- special regime of interbudgetary relations (Bashkortostan and Sakha reserve their right to determine the share of the federation in the over tax revenue from the region; Tyva maintains its own customs service).

Naturally, many of these provisions have never been implemented in practice. But it is exactly what this chapter intends to test: is there any relation between “higher autonomy” declared in the constitution and the outcomes of the decentralization process as measured by the fiscal and regulatory decentralization? I construct the index as follows: the region with respective provision receives 1, otherwise 0. Hence, the index may vary from 6 (all provisions contradicting federal law implemented) to 0 (no provisions implemented). The components of the index are reported in the *Appendix B.1*.

Obviously, all three indicators applied in this chapter are far from being perfect. The problem of the fiscal decentralization is that formal indicators of tax structure do not cover a high variety of financial flows between the center and the regions and between the regions and the economic actors (e.g. non-monetary transactions, barter, and redistribution of property rights, see Eckardt, 2002). Even despite the relatively high centralization in the field of taxation, regional governments still have sufficient additional powers via related business groups and banks etc (Rosefielde and Vennikova, 2004). Moreover, the use of parafiscal funds was quite common in the 1990s.⁵ Put it differently, tax retention rates may have little in common with the actual ability to produce public goods. The indicator of regulatory decentralization may be distorted by the fact, that federal controllers of the Ministry of Justice were not entirely impartial in terms of

⁵For example, in Kalmykia, one of the Russian republics in the Southern region, companies after registration paid a special “registration fee” to a so-called “Fund of Presidential Programs”. Even in the modern Russia, where the degree of federal control over these schemes is significantly higher, regional governments have enough opportunities to let the businesses “voluntary” pay for some regional projects, creating an additional tax, which is not covered by official statistics.

Table 2.1: Correlation of different aspects of decentralization

	Fiscal	Regulatory (share)	Regulatory (number)	Constitutional
Fiscal	1			
Regulatory (share)	-0.020 (0.852)	1		
Regulatory (number)	0.071 (0.513)	0.686*** (0.000)	1	
Constitutional	0.170 (0.475)	0.087 (0.715)	0.084 (0.724)	1

Notes: numbers in parenthesis are p-values. *** significant at 1% level.

allocating their effort among regions (though a relatively late data of the Federal Register status employed here should guarantee that all regions have had enough time to be thoroughly controlled) and the decisions on compatibility with the federal law. Finally, the constitutions discussed rarely address directly the issues of fiscal and regulatory decentralization; the index applied is rather an indirect measure. Nevertheless, the status of the data is still better than in most other cases, and hence one can at least try to establish statistical regularities in terms of interrelation between different aspects of decentralization.

2.3.2 Interrelation of dimensions of decentralization

The first problem to be considered in the framework of this chapter is whether different dimensions of decentralization are related to each other. *Table 2.1* reports simple pairwise correlations between four indicators used in this chapter. First of all, one can see that there is virtually no correlation between different aspects of decentralization. The same holds if other control variables are taken into account. Hence, one can conclude, that different aspects of decentralization process in one country, based on interaction of identical agents with (obviously) identical preferences, result into different outcomes.

However, the absence of correlation is to a certain extent an outcome of outliers – individual regions with strong deviation from the common trend. For example, excluding Ingushetia, Kalmykia, Altai Republic and Taimyr from the sample, one obtains significant positive correlation between fiscal and regulatory (share) decentralization (see *Figures 2.1* and *2.2*).⁶ For the regulatory decentralization measured by the *number* of negative conclusions of the experts of the Ministry of Justice, the result is robust to outliers, and it is obviously difficult to carry out this analysis for constitutional decentralization, which is an

⁶Three regions mentioned belong to the so-called “tax havens”, i.e. regions pursuing an internal offshore strategy in order to attract capital, partly due to abovementioned special regulations. Taimyr is a difficult case from the point of view of the fiscal decentralization; the tax revenue is strongly dependent upon the activity of the largest company, *Norilski Nikel*, which has actively implemented tax optimization schemes (for example, in 2000 and 2001 the activity of this company from the point of view of VAT optimization effectively led to *negative* tax revenue of the regional budget).

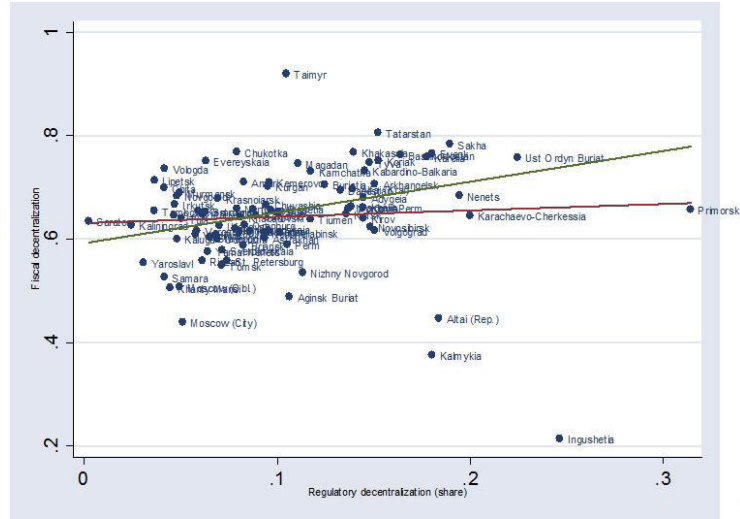


Figure 2.1: Correlation of decentralization indices; red line - total sample, green line - excluding four outliers

ordered variable. Nevertheless, even if it is the outliers which drive the absence of decentralization, it still does not change the fact, that different aspects of the decentralization process follow different paths.

2.4 Endogenous decentralization in Russia: data and empirical strategy

2.4.1 Factors of decentralization

Although so far I have focused on measuring decentralization in Russia, the aim of this exercise is to empirically identify the factors determining the degree of devolution achieved by individual regions according to different dimensions. From this point of view it is necessary to identify the variables able to serve as proxies for the main theoretical factors of devolution. Simplifying a lot, one could probably distinguish among five main hypotheses regarding the process of decentralization. First, the decentralization depends upon the trade-off between preference heterogeneity (or other forms of heterogeneity, which may be easier to measure, like income) and benefits from centralized public goods provision and insurance (Alesina and Spolaore, 2003). For an asymmetric federation it basically implies that regions with higher “preference distance” from the rest of the country are likely to be more decentralized. Second, the federations design specific redistribution schemes between regions, which may influence the resulting demand for decentralization (on both rule and policy level) (Buchanan and Faith, 1987). Third, the decentralization may result from the rules (both

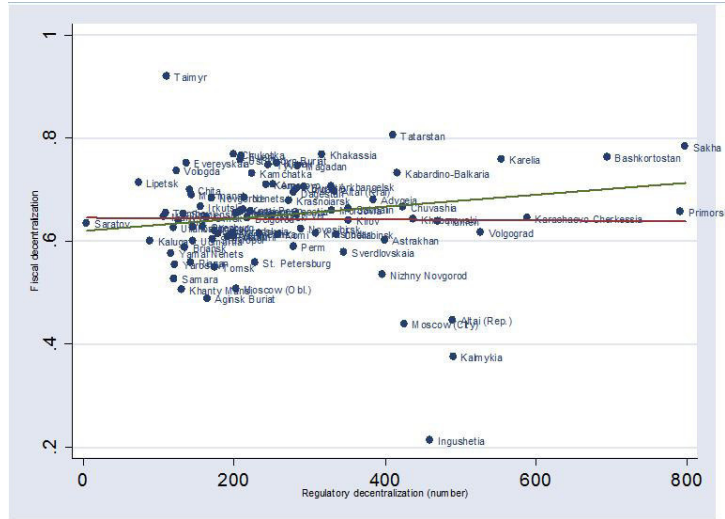


Figure 2.2: Correlation of decentralization indices; red line - total sample, green line - excluding four outliers

written and unwritten) regulating the bargaining process between the federal government and the regions and from the relative bargaining power of the parties (Filippov et al., 2004). Fourth, the political system (dictatorship vs. democracy; parliament vs. referendum; presidential vs. parliamentary republic) can be important for determining the structure of the decentralization (Feld et al., 2010; see also *Chapter 4*). Fifth, the outcome of decentralization may be impacted by interest groups on federal and regional level (Ruta, 2007). One should, however, not forget that the decentralization may simply result from the persistence in policies and politics, and hence, be outcome of the path dependence. Thus it is necessary for find variables to measure all factors mentioned above in the particular case of the Russian asymmetric federalism:

Bargaining power: First, it is reasonable to assume that bargaining power is related to the region's economic endowment. I apply four indicators to measure these factors: territory, population, average income per capita and share of oil and gas extraction (particularly important for Russia). The choice of variables seems to be relatively straightforward given the economic structure of Russia and availability of data. Second, the bargaining power could come from the region's ability to secede, which seems to play an important role in the design of the Russian federalism in the 1990s (Dombrovsky, 2006). This effect is captured by two variables: dummy for border region and geographical distance between regional capital and Moscow. Third, one more variable in this selection may be share of urban population (higher bargaining power of metropolitan areas), which, however, may also reflect preference heterogeneity.

Bargaining rules: The main problem for measuring this indicator is that Russia at least formally is characterized by a uniform political system. Nevertheless, I use the following proxies: (1) formal status of the region – dummy for republics and dummy for autonomous okrugs; (2) dummy for power-sharing agreements (though this variable is particularly problematic due to the endogeneity problem - power-sharing agreements are both result and consequences of bargaining) and (3) degree of tensions between the federal center and the region: I use the MFK Renaissance and the Russian Union of Industrialists and Entrepreneurs RUIE indices of tensions to account for this effect.⁷

Preferences: In a semi-authoritarian country like Russia in the 1990s the impact of public preferences may be significant, but should not be over-estimated. Gel'man and Popova (2003) describe the differences of preferences in terms of “market for symbolic goods”, where regional governments act as the “supply side” and play the crucial role. I use three variables to measure potential differences in preferences: (1) the preference difference may result from the ethnic composition of the region, which is measured by the share of ethnically Russian population⁸ and (2) the “distance” of the average income per capita in the region from the average over the whole Russian Federation.

Political institutions: Since Russian regions are characterized by a wide variety of political arrangements, it is also reasonable to look at specifics of regional politics. I look at two indicators: (1) the level of democratization, estimated by an index of Carnegie Center, which I will discuss in details in *Chapter 5* and (2) the power concentration within the office of the regional governors (there are three indices available for the Yeltsin period: Jarocinska (2004), RUIE and Urban Institute (UI)).

Redistribution: The most obvious way to capture this effect is to include a measure of the federal transfers in the regressions, although one, once again, may run into significant endogeneity problem.

Lobbying is measured by the index of regulatory capture, developed by Slinko, Yakovlev and Zhuravskaya (2005). Since the lobbying activity in Russia is mostly intransparent, it is hardly possible to cover it with other variables.

⁷It may seem to be strange to include bargaining rules in the analysis, if one recalls that in Russia unilateral devolution often implied direct violations of federal law. However, even in these cases, the desire of regions to ignore federal legislation depends on the “costs” and the “benefits” of autonomy, which, in turn, may be functions of bargaining rules. Or, stated otherwise, rules of the higher order explain why actors ignore or follow rules of the lower order.

⁸For the Russian Federation this indicator makes more sense than, say, religion or language. First, in Russia the ethnic identification is very important, partly because it was enforced through the government for the last eight decades – from the establishment of national republics by the Communist Party to the requirements to put ethnic origin (nacional'nost) in passports abolished only recently. Second, religious and linguistic self-identification is usually highly correlated with ethnicity (of course, there are deeper differences like more or less “active” participation in the religious affairs, or degree of command of a language, but they are also much more problematic to measure).

Path dependence could be most simply measured by the status of the region (for the period of the mature Russian federalism after adoption of the constitution in 1993). Hence, significant results for dummy republic and dummy autonomous region have a double interpretation in terms of rules of bargaining and path dependence. However, for this study I use a specific indicator of declarations of regional elites (based on event count by Dowley (1998) for the early 1990s⁹). The declarations of the first year of independence seem to be a good proxy for the orientation of the regional elites, which could be preserved in the future.

The variables of bargaining power, bargaining rules and preferences are expected to have a positive sign, i.e. increase the degree of devolution; the variables of redistribution, on the contrary, should have a negative sign, decreasing the desire of the region to achieve higher autonomy. It is difficult to make predictions for political institutions and lobbying, since the literature is inconclusive. Moreover, the path dependence variable is likely to have a positive sign, since the active declarations of regions in the early 1990s could in fact map into higher devolution. Details on the data are reported in *Appendix B.1*.

One can immediately see that this broad selection of variables faces three problems: multicollinearity, endogeneity and measurement error. On the one hand, many of the variables are highly correlated with each other, partly by construction (i.e. tension indices include the existence of power-sharing agreements; power indices include natural resources etc.). The problem of collinearity is especially important for the income per capita and distance from the average income per capita (although one should notice, that the second is not a linear transformation of the first; so, collinearity is not perfect). It is also acute for dummies republic / autonomous region and the share of Russians (since the autonomous territories are in fact per construction of the Soviet territorial design regions where the share of Russians is usually smaller).

The endogeneity problem is always present in research on endogenous decentralization. For Russia the situation is ambiguous. On the one hand, one can disregard several “traditional” dimensions of endogeneity like the mobility of population (as a factor influencing both ethnic composition and population size), partly because of short time horizon of the analysis, but partly because of the Russian specifics (like low population migration). However, there are also dimensions where endogeneity may become of greater importance; in particular, it is true for “bargaining rules” variables like power sharing treaties and fiscal transfers. The decision to establish a power sharing treaty (usually resulting from a long bargaining period) and the decision to manipulate federal

⁹This variable does *not* represent the *current* power and aspirations of governor, first, because of the time lag, and second, because of the shift to less public political environment in the second half of the 1990s (as opposed to the early period of Russian post-Communist evolution).

law / introduce a regional constitution with strong degree of devolution could be made simultaneously; retention rates obviously depend on federal transfers, if one takes the effect on tax effort into account. Finally, the problem may be even greater because of time-invariant dependent variables, which prevent me from exploiting the time variation of controls. In several cases (constitutional decentralization, existence of power-sharing agreement) I just “fixed” a particular moment in time, when the variables were measured, what is, of course, a huge simplification, which is unavoidable given the quality of data.

Finally, measurement errors are particularly important for what one may call “expert opinion” variables: democratization, tensions, lobbying, declarations of regional elites, but also power sharing treaties (the point is that in Russia the existence and the structure of treaties were often not disclosed or only partly disclosed; so, the variable capturing only the “main” treaties may simply lose too much information). One should notice, that the “expert opinion” variables are particularly problematic from the point of view of the endogeneity and multicollinearity problems as well.

2.4.2 Econometric strategy

I attempt to partly fix these problems by using the following procedure. In the first step I estimate the “basic” specification, which does not include “expert opinion” variables. Since most decentralization indicators do not vary over time, I estimate a cross-section for 88 Russian regions (i.e. all regions including Chechnya) and average time-varying variables over 1995-1999. The choice of the period is, as already mentioned, straightforward: the reforms of 1994 established the basic structure of the modern Russian federalism, and in 2000 the reforms of Putin significantly reduced the ability of regions for asymmetric devolution (for example, the regional legislation and constitutions were standardized according to the federal law).

For the fiscal decentralization and the share of negative conclusions to all conclusions as indicator of the regulatory decentralization the simple OLS could be applied. The number of negative conclusions is a count variable, and hence a Poisson or a negative binomial model should be applied. Because the data are characterized by overdispersion, I estimate the negative binomial model (although I have also estimated the Poisson model and did not find any significant differences). Finally, constitutional decentralization is measured by a discrete ordered variable. A usual approach to estimate is the ordered logit. In order to solve the multicollinearity problem, I estimate two “basic” specifications for each dimension of decentralization: with distance from average income and with average income per capita. I also exclude the share of Russians at this stage, since it is highly collinear with the dummy republic, in all six regressions.¹⁰ In

¹⁰It is an interesting question whether it makes more sense to include the share of Russians or dummies autonomous okrug and republic in the analysis. From the theoretical point of view the share of Russians is easier to explain, because the link to the preference heterogeneity is

the regressions for the constitutional decentralization the share of Russians is still included to control for potential effect of ethnic heterogeneity *within the sample* of national republics, which, as I will show, is indeed significant.¹¹ For the fiscal decentralization I also include two variables measuring the structure of the tax base, since the composition of tax revenue may as well have an impact on the outcome (as it is discussed in the next chapter): the volume of retail trade and net profits of the enterprises.

The next step aims to look at the measurement error and multicollinearity problems more closely. First, I re-estimate the regressions by varying the sets of controls and also by adding the “expert opinion” variables one by one. In this case I am rather interested in the robust results, which keep constant over different specifications, than in the analysis of each individual specification. Second, as a “limiting case” for this analysis I take a completely agnostic view on the validity of variables and theories and perform an extreme bounds analysis. Obviously, for the extremely small sample of constitutional decentralization these experiments are limited in terms of selection of variables simultaneously included in regressions; it is inevitable, but, of course, means that I may have lost the “precisely correct” specification in my estimates.

The third step of the analysis finally focuses on the endogeneity problem. It is important to notice, that an unambiguous solution of this issue is hardly possible in the framework of this study. First of all, there is no clear set of “hypothesis-driven” variables extended by a set of controls. In fact, almost all variables I use (with the exception of tax base variables for fiscal decentralization) are driven by hypotheses. Hence, however, one requires a large list of instruments to achieve at least exact identification in the first stage - a task certainly beyond any reasonable research exercise. Moreover, cross-sectional data with relatively small sample exacerbate the problem of low efficiency of IV estimator. Hence, what I am doing in what follows is in fact only a partial solution: I restrict my attention to results, which remain robust at the second step of the econometric strategy; therefore I ignore the problem of endogenous controls (the usual way to deal with this issue – exclusion of potential endogenous controls and analysis of robustness of results with and without them – is per construction performed at the second step). As I will show, most of the “suspicious” variables actually turn out to be insignificant, thus “resolving” me from the endogeneity problem, so, part of the problem disappears “by default”, although the cautious

obvious. However, for the Russian Federation it seems more suitable to focus on institutional variables. First, the effect of ethnic composition of the population on policies in the short run automatically goes *through the specifics of political institutions* - in this case, republican status. Second, since Russia is a semi-autocracy at best, public preferences may be less important than the preferences of political elites – and for the latter republican status is very important (cf. Obyedkova, 2008). Finally, since the status of a republic was usually granted by the Soviet government (all current republics were either republics or autonomous oblast in the RSFSR), it is not subject to reverse causality problem.

¹¹I have also estimated respective specification for other dimensions of decentralization, but did not find any significant results for the share of Russians.

interpretation of the results is necessary. There are also cases when two-stage estimation techniques are required. Of course, in this situation the results are based on "hope" that the omitted variable bias through the exclusion of endogenous controls and the bias from reverse causality from endogenous controls do not run in the same direction (and hence the results become not robust in these two settings). Hence, the results of this paper in terms of endogeneity analysis should be treated with great caution.

2.5 Endogenous decentralization in Russia: results

2.5.1 Basic results

As the first step in the analysis I consider the "basic" specifications without "expert opinion" variables". The results are reported in *Table 2.2*. As usually, for the OLS specifications I check the distribution of residuals using the Jarque-Bera test; if it is significant, I estimate regression after exclusion of outliers until the test becomes insignificant. A reasonable interpretation is possible only for results, which are robust to this modification. However, the omission of outliers has virtually no effect on the outcomes of the estimations.

There are several results interesting from the point of view of the theoretical predictions. The *fiscal decentralization* (specifications (1) and (2)) seems to be particularly driven by the bargaining factors; especially regions with large territory and large distance from Moscow are likely to have higher retention rates. Interestingly enough, though the income per capita is insignificant, the distance from average income has a significant negative impact on the degree of devolution in fiscal area. This is a surprising result, since it means that regions with higher preference distance are likely to have lower retention rates. One possible interpretation could be that not only the size of the distance, but also its sign matters: relatively poor and relatively rich regions have different expectations towards federation. However, replacing the measure of distance by the simple difference between average income in the federation and the regional income yields insignificant results. Hence both too large and too poor regions accept lower retention rates. It is obvious that for poor regions lower retention rates may be associated with expectation of higher redistribution through the federation.¹² It is however more problematic for rich regions. Yet another explanation could be the desire of the federal government to control rich regions and to limit their autonomy – logic similar to the appointment policy of Chinese government (see Sheng, 2007).

¹²Although fiscal transfers are not significant in the specification in this chapter, they are in a panel data setting discussed in *Chapter 3*.

Table 2.2: Factors of decentralization, 1995-1999, dep. var.: regulatory, fiscal and constitutional decentralization

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) Negative binomial	(6) Negative binomial	(7) Ordered logit	(8) Ordered logit
	Fiscal	Fiscal	Regulatory (share)	Regulatory (share)	Regulatory (number)	Regulatory (number)	Constitutional	Constitutional
Territory	0.051** (0.020)	0.051*** -0.017 (0.011)	0.002 (0.012)	0 (0.012)	0.129 (0.085)	0.119 (0.086)	8.957 (8.482)	6.247 (9.804)
Population	-0.01 (0.011)	-0.014 (0.010)	0.005 (0.003)	0.005 (0.003)	0.140*** (0.035)	0.140*** (0.035)	1.378 (0.867)	2.044 (1.775)
Oil and gas	0.015 (0.180)	0.159 (0.132)	0.042 (0.04)	0.041 (0.036)	0.46 (0.307)	0.442 (0.286)	95.876 (143.094)	124.153 (172.252)
Income per capita	-0.042 (0.043)		-0.019 (0.012)		-0.087 (0.091)		1.84 (6.492)	
Distance from average income		-0.102** (0.046)		-0.019 (0.013)		-0.082 (0.094)		13.23 (19.367)
Dummy autonomous okrug	0.09 (0.071)	0.123* (0.066)	0.043* (0.025)	0.039 (0.025)	-0.188 (0.199)	-0.213 (0.201)		
Dummy republic	0.028 (0.030)	0.038 (0.027)	0.053*** (0.012)	0.053*** (0.012)	0.581*** (0.120)	0.579*** (0.121)		
Distance from Moscow	0.010** (0.005)	0.009** (0.004)	0.006* (0.004)	0.006* (0.003)	0.057** (0.023)	0.053** (0.022)	0.837 (0.726)	1.364 (1.754)
Dummy border region	0.024 (0.022)	0.024 (0.021)	0.006 (0.010)	0.006 (0.010)	0.065 (0.103)	0.066 (0.102)	-1.857 (2.694)	-2.453 (4.226)
Share of Russians							-13.396** (6.583)	-10.592 (7.801)
Urbanization	1.134 (1.109)	1.312 (1.062)	-0.636 (0.472)	-0.765* (0.454)	-2.44 (4.135)	-3.175 (4.038)	212.057* (113.072)	281.125 (185.913)
Fiscal transfers	-0.14 (0.104)	-0.106 (0.104)	-0.003 (0.039)	0.009 (0.040)	0.154 (0.415)	0.205 (0.429)	17.297* (9.758)	21.011 (19.225)
Retail trade	0 (0.001)	0.001 (0.001)						
Net profit	-0.004 (0.003)	-0.004** (0.002)						
Constant	0.597*** (0.083)	0.583*** (0.086)	0.116*** (0.036)	0.117*** (0.037)	5.173*** (0.368)	5.185*** (0.382)		
Observations	88	88	88	88	88	88	20	20
Pseudo R^2					0.037	0.037	0.49	0.503
R^2	0.277	0.321	0.407	0.404				
F-stat	10.57***	9.90***	7.53***	8.10***				
Wald Chi-stat					90.61***	91.28***	26.08***	36.63***
J.-B. test	195.3***	134.3***	56.37***	63.15***				
LR proportional odds test							32.28	31.44

Notes: numbers in parenthesis are standard errors. * significant at 10% level, ** significant at 5% level, *** significant at 1% level. Robust standard errors applied. For the analysis of outliers see Appendix B.2.

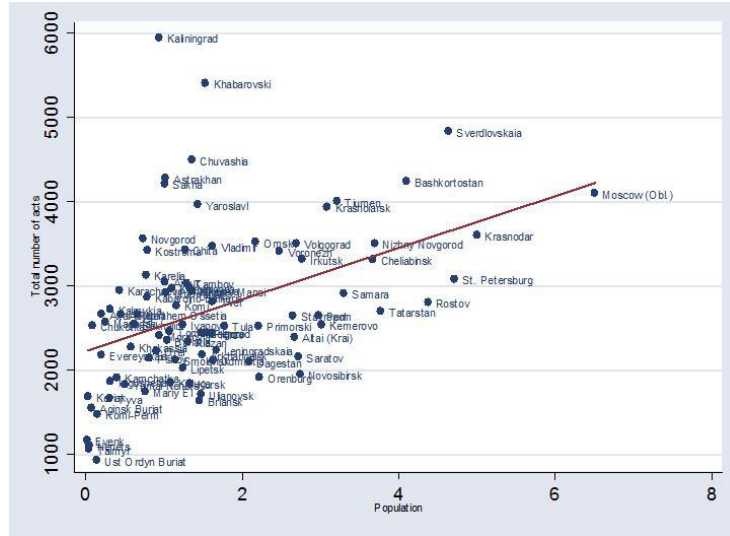


Figure 2.3: Population and total number of acts assessed by the Ministry of Justice in the Federal Register

For the *regulatory decentralization* (specifications (3) and (4)) results for the specification with number and with share of negative conclusions vary slightly. First, one finds a strong and significant effect of the rules of bargaining / path dependence factors: republics are on average able to achieve higher degree of devolution, although I was unable to find any effect of the republic status for fiscal decentralization. Distance from Moscow is also significant and positive, but it is partly non-robust to outliers (for share, but not for number of negative conclusions).¹³ Moreover, regions with larger population seem to have higher number of violations; for the share of violations results are non-robust to specification. However, population seems to be highly correlated with number of acts issued and assessed (because, say, large regions issue more acts or the Ministry paid more attention to large regions; see also *Figure 2.3*¹⁴), so the result can come from this feature.

The estimations for the *constitutional decentralization* (specifications (5) and (6)) are especially problematic because of small sample. It is surprising that one obtains a reasonable statistical significance for this sample at all. Nevertheless, some results should be mentioned. First, in the specification with average

¹³The reason could be the presence of Primorski krai: a territory with a very specific “warlordist” political system may have generated an overproportionally high number of violations of federal law, but may as well be especially “interesting” for federal officials of the early Putin period responsible for the construction of the Federal Register. Nevertheless, estimates without Primorski krai also reveal significant effect of the distance.

¹⁴The graph excludes City of Moscow as an outlier. However, it has an extremely high number of acts assessed and very high population, thus confirming the correlation.

income per capita urbanization and fiscal transfers seem to have significant and positive effect on devolution; while the first effect once again confirms the theory, the second may in fact indicate the presence of reverse causality in the data: regions with higher autonomy have also received higher “pacifying” transfers. Moreover, share of Russians has a significant and negative impact; unlike other specifications, where it seemed to matter only if the dummy republic was excluded (as I will show in what follows), for constitutional decentralization one finds an additional direct effect even for the sample consisting of republics – regions with lower share of ethnic Russians seem to have higher level of constitutional devolution. These effects, however, vanish if the distance from average income instead of average income is used.

Several robustness tests can be implemented at this stage. First, I estimated all regressions including *both distance from average income and average income per capita*. For the fiscal decentralization distance is still significant and negative, while income is not; for the regulatory (both share and number) and constitutional decentralization both variables are insignificant. Hence, my results are robust to this modification. Second, I account for the fact that dependent variables in specifications (1) – (4) are bounded from above by performing *log-odds transformation* ($\text{Log}(\text{Variable} / (1 - \text{Variable}))$) and re-estimating the regressions. Basically, all results are robust, but urbanization and dummy autonomous region lose significance. Third, since the variables might be determined jointly, I also estimate pairs (1) and (3) and (2) and (4) as *seemingly unrelated regressions* (for other variables using system of equations is unreasonable; it is impossible to use linear- and non-linear models in one system, and reducing all models to linear form guarantees misspecification of at least one equation, and therefore, of the whole system). Once again, the results are robust, with the only exception urbanization for regulatory decentralization in specification with distance from average income.

2.5.2 Modified specifications and expert opinion variables

The next step of my analysis is, as mentioned, to look at the variations of specifications of regressions, and also at potential impact of expert opinion variables. The individual regressions are reported in *Appendix B.2*. I construct all specifications using the same logic. Each of the first three dimensions of decentralization is covered by 28 regressions: 14 with average income per capita and 14 with distance from average income. In each of these six subgroups the first five regressions are modifications of the basic regression, accounting for individual factors of decentralization. The first and the second regressions experiment with probably the most reasonable variables for the Russian devolution: bargaining power and dummy republic / autonomous okrug. Given strong democratic deficits in Russia and potential endogeneity of fiscal transfers, as well as unclear impact of urbanization on power distribution, these variables should be most likely to influence the structure of decentralization. Further regressions explore the role of ethnic heterogeneity. The third regression estimates a specification including

share of Russians, dummy republic and dummy autonomous okrug; the fourth regression drops the dummies. The fifth regression is the “basic specification” reported above. Further nine regressions add the expert opinion variables one by one. Of course, if different expert opinion variables measure the same thing (like different tension indices), I include only one of them (they are also usually highly correlated); otherwise the variable, once included, remains in the specification – so, I basically move towards regressions with larger number of controls. For the constitutional decentralization, since the sample is smaller, I necessarily have to focus on smaller number of specifications with a limited selection of controls.

In order to make the comparison of the outcomes more transparent, I summarize the results in the *Table 2.3*. As in case of the basic regressions, for the residuals from the absolute majority of the OLS regressions the Jarque-Bera test is highly significant, I also control for potential effect of outliers, excluding the observations until Jarque-Bera becomes insignificant. The list of outliers for regulatory and fiscal decentralization differs dramatically: while for the regulatory decentralization the main outliers are City of Moscow (due to its obvious status of the capital and “closeness” to the federal government) and Primorski krai, for the fiscal decentralization the list of outliers mostly includes tax havens in different combinations (see next chapter for a more detailed discussion), several autonomous regions (Taimyr and Aginsk Buryat), as well as two republics Tatarstan and Bashkortostan, which received a special tax regime through the power-sharing agreement. City of Moscow and Republic of Sakha are also listed among the outliers. Difference in the list of outliers may also confirm that the regulatory and the fiscal decentralization were driven by different factors. Moreover, the estimations confirm that the choice of dummy republic / autonomous okrugs over share of Russians was correct. First, if all three variables are included, share of Russians is never significant (although dummy republic may remain significant). Second, if the dummy republic was significant and positive in the initial specification, after it is dropped and replaced by the share of Russians, the latter becomes significant and negative.

However, generally speaking, the results of the analysis of this stage hardly provide new insights explaining decentralization among Russian regions. Most results reported so far are robust to the variation of specifications and inclusion of expert opinion variable. The latter are actually insignificant or not robust to the selection of controls. Negative sign for oil and gas share observed in some specifications may just come from a statistical fluctuation.¹⁵ Expert opinion variables specifications become interesting only for constitutional decentralization (where their robustness is most questionable). The most robust outcome is that republic with larger distance from average income have a higher devolution

¹⁵One should recall, that in the 1990s oil extraction was controlled by the private business, and even state-owned gas giant Gazprom was virtually outside of the control of the federal government – so, an effect of significant federal pressure through control over businesses is hardly present here.

Table 2.3: Expert opinion variables and different specifications: summary of results

Indicator	Fiscal decentralization	Regulatory decentralization (share)	Regulatory decentralization (number)	Constitutional decentralization (ordered logit)
Territory	++		+	+
Population		(+)	+++	+
Oil and gas	-		+	
Income p.c.		-		-
Distance from average income	- - -	-		++
Dummy autonomous region	(-)	+	-	n.a.
Dummy republic	+	+++	+++	n.a.
Distance from Moscow	++	(++)	+++	+
Dummy border region	+			
Urbanization	(+)	-		+
Fiscal transfers				++
Tensions				
Power sharing agreement				
Democratization	-			+++
Power				-
Declarations				
Regulatory capture				

Notes: three signs mark a variable which has identical significant effect in all specifications.

++ mark variable which has identical significant effect in most in specifications including full sample. + marks variable which significant effect in at least one specification. () indicate that the result is not robust to outliers. Share of Russians not included in the table, since its significant and negative sign crucially depends on presence of dummies republic / autonomous region

index. This is predictable given the hypotheses discussed above. Democracy level has a strong positive impact on the level of declarations. Thus, at least for the constitutional decentralization democracy indeed seems to be a factor supporting the desire for autonomy. However, the small sample for the constitutional decentralization makes the analysis of course problematic. Moreover, while in the basic specifications the likelihood ratio test did not suggest a violation of proportional-odds assumption, this is not the case for specifications with expert opinion variables. The usual way to solve the problem is to estimate the generalized ordered logit regression; however, in a very small sample with four cut-off levels it is extremely problematic.¹⁶

¹⁶Nevertheless, I still tried to apply this method for all regressions where proportional-odds assumption might be problematic. Unfortunately, most results are extremely non-robust (and also do not confirm observations for ordered logit). Nevertheless, the results with respect to distance from the average income and fiscal transfers seem to be relatively robust in terms of sign and significance. The only interesting observation is that more variables get significant for higher cut-off levels – though the sign varies from level to level. Small size of the sample does not allow further investigation. Democracy level turns its sign; now it becomes negative and significant. A conservative approach would allow me to claim that there is a relatively stable positive association between fiscal transfers and distance from the average income on the one side and constitutional decentralization on the other; further outcomes are not robust and may be driven by the specification and (violated) proportional-odds assumption.

2.5.3 Extreme bounds analysis

A more formal way to approach the problem of robustness of specifications, which becomes crucial in a small sample environment, is to implement an extreme bounds analysis (EBA). Once again, this method has its merits and demerits. On the one hand, it is a more systematic analysis of effect of specification on estimation outcomes. However, on the other hand, while so far my selection of specifications was at least partly driven by the structure of theories, the EBA simply looks at all possible combinations of regressors. Theoretically, it is possible that the “true” result is reflected just by one specification, which is “lost” in endless combinations of EBA. Hence, it is important to interpret the results of EBA in a conservative fashion: while they are unlikely to give evidence *against* the influence of certain parameters on decentralization, if the covariates survive the EBA, it provides additional argument *in favor* of the influence.

The basic approach to the EBA was developed by Leamer (1978); this chapter applies both most popular versions of extreme bounds analysis used in the literature. The original suggestion (see e.g. Levine and Renelt, 1992) was to estimate the upper and the lower bounds by taking all possible combinations of regressors and to look at the smallest estimate minus two standard errors and at the largest estimate plus two standard errors. If the null is within the interval formed by the upper and the lower bounds, the impact is not robust. Sala-i-Martin (1997) proposes a less extreme version of the approach, considering the entire distribution of the coefficient. In this case the coefficient is robust if the CDF(0) statistics is sufficiently high. Most applications of the EBA in the literature assume some variables to be present in all regressions (mostly because of theoretical results or research traditions) and vary the rest. Unfortunately, the literature on endogenous decentralization is too young to develop similar assumptions. So, I take all possible combinations for all possible variables (from bivariate regression to regression with all possible covariates). Unfortunately, in this setting the multicollinearity can impose very high volatility of coefficients over regressions; however, there is no better theoretically motivated alternative.

The EBA for fiscal and regulatory decentralization is performed for 16 variables: territory, population, share of oil and gas, income per capita, distance from average income, dummy autonomous region and dummy republic, distance from Moscow, urbanization, fiscal transfers, tensions (RUIE), power (Jarocinska), dummy power sharing agreement, democratization, declarations and regulatory capture: so, regressions include from 1 to 16 covariates. I do not perform EBA for constitutional decentralization, given that the sample is extremely small.¹⁷ Of course, for the EBA for each variable I use only regressions including this variable. As a robust result I consider only variables with CDF(0) > .95 as in Sala-i-Martin (1997).

¹⁷However, experiments with EBA for constitutional decentralization were performed, and yielded no robust covariates surviving the extreme bound analysis.

Chapter 6

Conclusion

This thesis attempted to study selected problems related to economics of non-democracies and economics of endogenous decentralization in federations in an empirical and theoretical context of an asymmetric federal structure. Both problems of decentralization and democratization are of great importance, not only from the scientific point of view, but also in the policy advice for economic and institutional reforms in developing and transition countries. Therefore it seems to be necessary to present some general conclusions regarding both branches of the literature, which determined the choice of research agenda for this thesis.

The standard approach to research on decentralization in economics seems to be straightforward. On the one hand, the theoretical literature explores the determinants and the effects of constitutional decentralization, i.e. allocation of authorities between governments on different levels. On the other hand, the empirical research applies a number of (imperfect) proxies - most notably, share of subnational fiscal revenues or expenditures - to test the predictions of the theory (*Figure 6.1*). It means, certainly, that there exists a gap between what is defined as decentralization in theory and what is used to measure decentralization in empirical work, especially if the intergovernmental relations in the federation are more complex. One aspect of this complexity is of course the well-studied intergovernmental fiscal transfers issue; however, there may be further forces at work, which make even the pure decentralization indicators (before transfers) problematic. In particular, the problem is present if the fiscal flows are attributed to regional budgets, but determined by the federal government (centralized instead of decentralized federation) and / or federal government delegates its authorities to be implemented by regional bureaucracy (cooperative instead of dual federation). Although U.S. is an example of dual decentralized federations (and seemingly inspired a lion's share of research in this area), most European federations are at least either centralized or cooperative (and often combine both features).

One possible reaction to the problem is to perceive the imperfection of em-

pirical proxies as a measurement error: in this case the problem can be reduced to finding better quantitative indicators, which account for "real" authorities of regional governments (*Figure 6.2*). In this case the "traditional" retention rates and shares of subnational revenue and expenditures simply do not measure the intended aspect of the economic reality.

The results of this thesis, however, show that the relation between the empirics and the theory may be even more complex: the gap is not simply a result of measurement errors, but reflects the existence of the "post-constitutional" redistribution of de-facto authorities and (even more importantly) ability to influence economic processes, reflected in control over (fiscal) resources (*Figure 6.3*). Hence, the correct understanding of federal dynamics requires a detailed analysis of all three aspects: (a) formal constitution, (b) resulting allocation of resources and (c) the reasons for discrepancies between (a) and (b); a process which Jenna Bednar (2008) describes as "migration of authorities" in a federation. *Both* formal and informal aspects matter in terms of economic performance, but are not independent from each other.

The first paper of this thesis shows that the post-constitutional decentralization may differ significantly from what is written in federal and even regional constitutions; however, the design of formal constitution is crucial for the *mechanisms* generating these differences, as the second paper demonstrates using the example of strategic tax collection. It is the centralized Russian state which generates an environment for the particular form of fiscal decentralization (through manipulation of tax collection effort or "war of laws"), which is in turn relevant for economic behavior.

The second group of results of this paper is related to the interaction between democracy and federalism. Once again, the relation between democracy and economic performance, as well as other institutional characteristics of economy is a standard field of investigation in both theoretical and empirical literature. This thesis aims to show, that the discussion in economics so far missed at least one important aspect of this problem (which has been, however, studied in political science to a certain extent): democratization in federations does never influence both center and regions simultaneously. A more likely scenario is that some regions turn into an "oasis of democracy" or an area of the "subnational authoritarianism". Although this finding is (as noticed) not really new for social sciences, the thesis attempted to demonstrate that these differences in political regimes are relevant for economic performance. The third paper of the thesis in a theoretical framework showed how differences in regimes may influence decentralization process (which, in turn, sets the described complex machinery in motion to generate economic results). The fourth paper looked directly at the influence of subnational democracy on economic growth, as well as at the interaction between democracy and size of the bureaucratic staff, and provided strong evidence for economically significant effects.

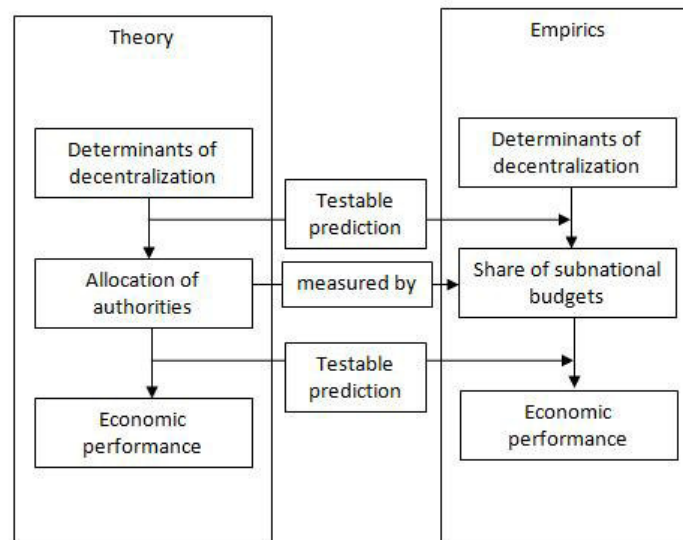


Figure 6.1: Standard approach of fiscal federalism

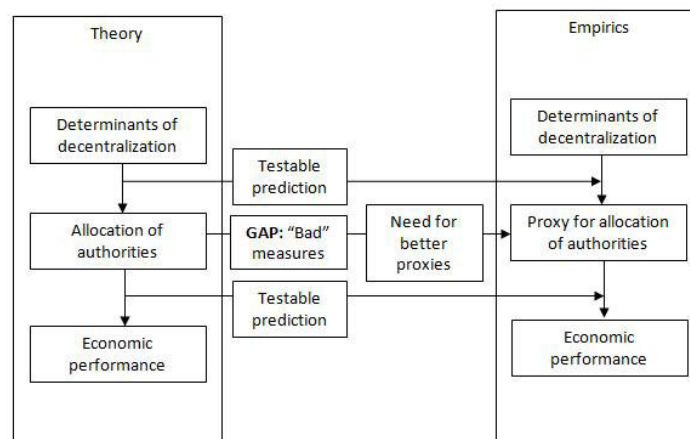


Figure 6.2: Measurement problem by empirical tests of theoretical predictions

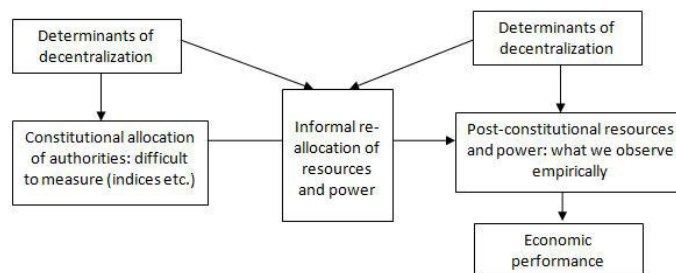


Figure 6.3: Gap between constitutional and post-constitutional decentralization: results of this thesis

From this point of view, moreover, it is possible to notice the third general contribution of the thesis. It demonstrated that the asymmetric federalism (with individual degree of autonomy for each region) and subnational variation of political regimes are able to provide a good empirical playground for studying general processes, so far discussed only in international cross-country settings. Therefore focusing on intranational variation may support the theoretical conclusions with better data and plausible identification strategies. There is, of course, the problem of external validity to be mentioned; however, the surprising similarity of studies dealing with Mexico and Russia in terms of the "democracy-and-growth" nexus shows that in spite of all differences between federations, studying their regions may be helpful from the point of view of testing more general predictions of the theory.

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